

# QT-16Cr Technical Data Sheet

As supplied, QT-16Cr may contain tube-to-tube welds and is not manufactured as Flash-Free or TRUE-TAPER™. QT-16Cr is manufactured from a nitrogen-strengthened austenitic stainless steel. The chemical requirements of QT-16Cr parent tubing will meet the chemical requirements of UNS S20400.

## Mechanical Properties

Minimum Yield Strength, psi (MPa)	90,000 (621)
Minimum Tensile Strength, psi (MPa)	110,000 (758)
Minimum Elongation	35%
Maximum Hardness	38 HRC

## Technical Data

### Specified

Outside Diameter, D		Wall Thickness, t		Calculated Inside Diameter, d		Plain End Mass, M <sub>pe</sub>		Pipe Metal Cross Sectional Area, A		Pipe Body Yield Load, L <sub>y</sub>		Tensile Load, L <sub>t</sub>		Internal Yield Pressure, P <sub>i</sub>		*Hydro Test Pressure, P <sub>t</sub>		Torsional Yield Strength, T <sub>y</sub>	
in	mm	in	mm	in	mm	lb/ft	kg/m	in <sup>2</sup>	mm <sup>2</sup>	lb	kg	lb	kg	psi	MPa	psi	MPa	ft-lb	N-m
1	25.4	0.095	2.4	0.810	20.6	0.919	1.368	0.270	174	24,310	11,030	29,710	13,480	16,200	111	10,400	71.5	480	650
1	25.4	0.109	2.8	0.782	19.9	1.038	1.545	0.305	196	27,460	12,460	33,560	15,220	18,720	129	12,000	82.6	530	720
1 ¼	31.8	0.095	2.4	1.060	26.9	1.173	1.746	0.345	222	31,020	14,070	37,920	17,200	12,960	89	8,300	57.2	800	1,080
1 ¼	31.8	0.109	2.8	1.032	26.2	1.330	1.979	0.391	252	35,160	15,950	42,980	19,500	14,980	103	9,600	66.1	890	1,210
1 ¼	31.8	0.134	3.4	0.982	24.9	1.599	2.379	0.470	303	42,280	19,180	51,680	23,440	18,580	128	11,900	82.0	1,030	1,400
1 ¼	31.8	0.156	4.0	0.938	23.8	1.824	2.715	0.536	345	48,250	21,890	58,980	26,750	21,740	149	13,900	95.9	1,130	1,530
1 ½	38.1	0.095	2.4	1.310	33.3	1.427	2.124	0.419	270	37,740	17,120	46,130	20,920	10,800	74	6,900	47.7	1,200	1,630
1 ½	38.1	0.109	2.8	1.282	32.6	1.621	2.412	0.476	307	42,870	19,450	52,400	23,770	12,480	86	8,000	55.1	1,340	1,820
1 ½	38.1	0.134	3.4	1.232	31.3	1.957	2.912	0.575	371	51,750	23,470	63,260	28,690	15,480	106	9,900	68.3	1,560	2,120
1 ½	38.1	0.156	4.0	1.188	30.2	2.241	3.336	0.659	425	59,280	26,890	72,450	32,860	18,120	124	11,600	80.0	1,740	2,360
1 ½	38.1	0.175	4.4	1.150	29.2	2.479	3.689	0.728	470	65,560	29,740	80,130	36,350	20,400	140	13,100	90.0	1,880	2,550
1 ¾	44.5	0.109	2.8	1.532	38.9	1.912	2.846	0.562	362	50,570	22,940	61,810	28,040	10,700	73	6,800	47.2	1,880	2,550
1 ¾	44.5	0.134	3.4	1.482	37.6	2.315	3.445	0.680	438	61,230	27,770	74,830	33,940	13,270	91	8,500	58.5	2,210	3,000
1 ¾	44.5	0.156	4.0	1.438	36.5	2.658	3.956	0.781	504	70,310	31,890	85,930	38,980	15,530	107	9,900	68.5	2,480	3,360
1 ¾	44.5	0.175	4.4	1.400	35.6	2.946	4.385	0.866	558	77,930	35,350	95,250	43,200	17,490	120	11,200	77.2	2,690	3,650
1 ¾	44.5	0.188	4.8	1.374	34.9	3.139	4.672	0.923	595	83,030	37,660	101,480	46,030	18,820	129	12,000	83.1	2,820	3,820
2	50.8	0.134	3.4	1.732	44.0	2.673	3.978	0.786	506	70,700	32,070	86,410	39,190	11,610	80	7,400	51.2	2,980	4,040
2	50.8	0.156	4.0	1.688	42.9	3.075	4.577	0.904	583	81,340	36,900	99,410	45,090	13,590	93	8,700	60.0	3,350	4,540
2	50.8	0.175	4.4	1.650	41.9	3.414	5.081	1.003	647	90,300	40,960	110,370	50,060	15,300	105	9,800	67.5	3,650	4,950
2	50.8	0.188	4.8	1.624	41.2	3.642	5.420	1.070	690	96,320	43,690	117,720	53,400	16,470	113	10,500	72.7	3,840	5,210
2 ¾	60.3	0.134	3.4	2.107	53.5	3.210	4.778	0.943	608	84,910	38,510	103,770	47,070	9,780	67	6,300	43.1	4,330	5,870
2 ¾	60.3	0.156	4.0	2.063	52.4	3.700	5.508	1.088	701	97,880	44,400	119,630	54,260	11,440	78	7,300	50.5	4,910	6,660
2 ¾	60.3	0.175	4.4	2.025	51.4	4.116	6.126	1.210	780	108,860	49,380	133,050	60,350	12,880	88	8,200	56.9	5,370	7,280
2 ¾	60.3	0.188	4.8	1.999	50.8	4.395	6.542	1.292	833	116,250	52,730	142,090	64,450	13,870	95	8,900	61.2	5,670	7,690
2 ¾	73.0	0.156	4.0	2.563	65.1	4.534	6.749	1.333	859	119,930	54,400	146,580	66,490	9,450	65	6,200	42.5	7,440	10,090
2 ¾	73.0	0.175	4.4	2.525	64.1	5.051	7.518	1.484	957	133,600	60,600	163,280	74,060	10,640	73	6,900	47.8	8,180	11,090
2 ¾	73.0	0.188	4.8	2.499	63.5	5.400	8.037	1.587	1,023	142,830	64,790	174,570	79,180	11,460	79	7,500	51.5	8,670	11,750

**A** Minimum wall thickness is 0.005" (0.13 mm) less than specified wall thickness.

**B** Pressures calculated based on t = 0.005" (0.13 mm).

\* Assumes 64% specified minimum yield strength

**C** Maximum hydrostatic test pressure is 15,000 psi (103 MPa).

**D** Additional diameters and wall thicknesses may be available upon request.

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